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Re-engineering of the optical disk system

Report of the Secretary-General

I. Introduction

1. The present report is submitted in accordance with section V, paragraph 3, of General Assembly resolution 55/222 of 23 December 2000, in which the Assembly requested the Secretary-General to report on the implementation of the re-engineering of the optical disc system referred to in paragraph 9 of the report of the Secretary-General dated 1 May 2000 on information technologies (A/54/849).

II. Background

2. The old optical disc system was developed in 1991 and its production operations began in 1992. The system was based on proprietary software and optical disc technology along with other components which were considered to be the "state-of-the-art" technology in the early 1990s. However, since then, technological changes have made the old system obsolete, expensive to maintain and inflexible for growth.

3. Under those circumstances, a project was launched in early 2000 to re-engineer the optical disc system on the basis of up-to-date technology, open standards (non-proprietary), a standard Internet browser and standard disk media storage.

III. New platform

4. In February 2000, a prototype model of the new system was developed and a series of benchmark tests were conducted as a proof of concept. Following successful tests, the decision was made to move forward with the full re-engineering of the system.

5. In the new system, Windows 2000 and Lotus Notes are used because they are industry standards for client-server operating systems and document management systems, respectively. In addition, Microsoft Internet Information Server (MS IIS) is used to make the new system a fully Web-based system. The new system, based on these software packages, will be easier to develop and maintain without proprietary components.

6. In the new system, optical discs are no longer used as storage media. Instead, magnetic media (that is, disks) are used. Magnetic disks are fast, reliable and inexpensive even for the large amounts of storage space (for example, 300 gigabytes) required by the system. Furthermore, the newer architecture of disk storage provides the capability for the new system to expand its total capacity to terabytes (that is, 1,000 gigabytes) and beyond.

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IV. Two phases of implementation

7. The new system will be delivered in two phases. The first is a one-to-one migration of the old system to the new platform, while the second is the provision for full multilingual support functions.

8. *Phase 1* (one-to-one migration): in this phase, the old optical disc system will be migrated to the new system in New York and Geneva without changing the functionalities of the old system. At the completion of phase 1, the new system based on the new platform (Windows 2000, Lotus Notes, MS IIS, and magnetic media storage) will be operated in both New York and Geneva, and the functionalities will remain the same as the old system.

9. *Phase 2* (full multilingual support function): in this phase, additional functionality will be implemented to the new system so that users can access it and search for documents using any of the six official languages of the United Nations, as opposed to the old system, which limited the search function to English and French.

V. Progress made

10. In February 2001, the development work of the first phase was completed. The new software and converted database were installed on new servers and extensive testing began with assistance from the system's user community. The application software was adjusted and tuned.

11. On 22 June 2001, the new system started parallel operations with the old system. All documents existing on the old system were copied onto the new system, and as new documents were fed to the old system, the same documents were fed to the new system. Therefore, as far as the document contents were concerned, both systems were identical. A small group of test users were encouraged to use the new system and make comments for improvements. Based on the comments, the new system was further fine-tuned.

12. In August 2001, a series of announcements were made to staff members at Headquarters and at the United Nations Office at Geneva and to Permanent Missions in New York and Geneva as to the availability of the new system. Users were encouraged to use the new system.

13. At 1800 on 4 September 2001, the old system was permanently shut down, leaving the new system as the sole production system. That concluded phase 1 (one-to-one migration). So far, the new system has been running smoothly.

14. Since the new system no longer uses the optical discs, the new system is now called the Official Document System, so that the same acronym (ODS) can continue to be used.

VI. Remaining implementation schedule

15. During phase 1, the research, analysis and design were simultaneously undertaken for phase 2 (full multilingual support function), and the specifications were documented. After the completion of phase 1, on 4 September 2001, the staff resources were shifted to undertake the remaining development work of phase 2.

16. It is expected that the development work will continue until the end of November 2001. The parallel operations of phase 2 are expected to start in the beginning of December 2001, and the production operations are expected to start in the beginning of January 2002.

VII. Implications of the new system

17. There are several significant implications on the new Official Document System.

18. The new system is a fully Web technology-based system. All a user needs is a standard Web browser on a personal computer with a reasonably fast connectivity between the user's personal computer and his/her Internet service provider (ISP), which is relatively easy to obtain. Once this is done, the user can access the new system from anywhere in the world; the physical distance between the user and the new system is now irrelevant.

19. Under the old system, the user required proprietary client software on the personal computer and a direct connection between the user's personal computer and the system using high-speed connectivity, such as an Integrated Services Digital Network (ISDN) line. That made it costly and less practical for users far away from Headquarters (for example, in Asia) to access the system. Under the new

system, even those users far away from Headquarters can access the system easily, as long as they can access the Internet with a standard Web browser. It should be noted that permanent missions currently equipped with ISDN can continue to use ISDN to access the new system as well as other web sites on the Internet.

20. The old system could also be accessed through the Internet with a standard Web browser. However, the functionality of the system in that access mode was limited in comparison with the direct access mode because of the way the system was initially structured. However, since the new system has been designed solely for Internet access, that restriction was removed, and users can enjoy the full functionality of the system through the Internet.

21. Since the new system is a fully Web technology-based system for United Nations staff members, it is considered as part of the Headquarters Intranet applications. Currently, all Offices away from Headquarters except the Economic Commission for Africa (ECA), can access Headquarters Intranet applications from their respective premises through the United Nations Wide Area Network (WAN) without going through the Internet. Similarly, therefore, all Offices away from Headquarters (except ECA) will be able to access the new ODS through WAN from their respective premises. Efforts are currently being made to establish a WAN connectivity between Headquarters and ECA. When that is completed, ECA will be able to access all Headquarters Intranet applications (including the new ODS) from their premises.

22. Similarly, efforts are being made for all peacekeeping missions to be able to access Headquarters Intranet applications through the United Nations WAN via the United Nations Logistics Base (UNLB) in Brindisi, Italy. When those efforts are completed, the staff members of all peacekeeping missions will be able to access Headquarters Intranet applications, including the new ODS, from their premises. Some peacekeeping missions (for example, the United Nations Interim Administration Mission in Kosovo) already have that capability.

23. The new system is an open system based on the de facto industry standard software (that is, Windows 2000, Lotus Notes, MS IIS) and hardware (that is, magnetic disks), without proprietary components, providing the system with high-maintainability and high-scalability.

24. Owing to its high maintainability, the system can be operated and maintained by United Nations staff members. Improvements and modifications to the new system can be done quickly and easily. Therefore, the new system has the capability to adjust itself to changing user requirements.

25. For example, phase 2 (full multilingual support function) takes advantage of the standard multilingual support of Lotus Notes (not a proprietary function). Thus, the objective of phase 2 is to provide the new ODS with a full multilingual support function. At the completion of phase 2, a user will be able to choose one primary language (for example, Arabic) out of the six official languages at the home page of the system. After that, the user will be able to access the system and search for documents in that primary language. Once a document is selected, the user can display the document in any of the six official languages. This is in line with the policy to ensure parity among the six official languages of the United Nations.

26. The high-scalability of the new system means that, if the system needs more data capacity, it can be done by simply adding more disks, allowing more documents to be stored on the system. If the system needs more power, adding more memory chips and processing units will allow more users to be accommodated.

27. Owing to the limited capacity of the old system, each Member State had been allowed a maximum of 10 users. However, the high maintainability and the high scalability of the new system have allowed some relaxation of that restriction. Therefore, effective 28 August 2001, the limit was raised from 10 to 20 per Member State.

28. The Secretariat would like to gradually reduce the restrictions on the number of users. The system will be monitored carefully, and the Secretariat will proceed cautiously.

VIII. Conclusion

29. In conclusion, a new life cycle of the Official Document System has just begun. The new system has much potential which could not be considered in the past. The Secretariat is committed to continually improving the new system to meet future challenges.